

# **DIX BOF**

# **Digital Identity eXchange**

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65<sup>th</sup> IETF, Dallas  
March 21<sup>st</sup> 2006

# draft-merrells-dix-00.txt

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- Individual Submission Internet-Draft
  - Title: DIX: Digital Identity Exchange
  - Author: J. Merrells, Sxip Identity
  - Contact: merrells@sxip.com
  - Date: Jan 17th, 2005
- <http://www.ietf.org/internet-drafts/draft-merrells-dix-00.txt>
- (*Wiki has Update: <http://dixs.org/index.php/Documents>*)

# SXIP 2.0

---

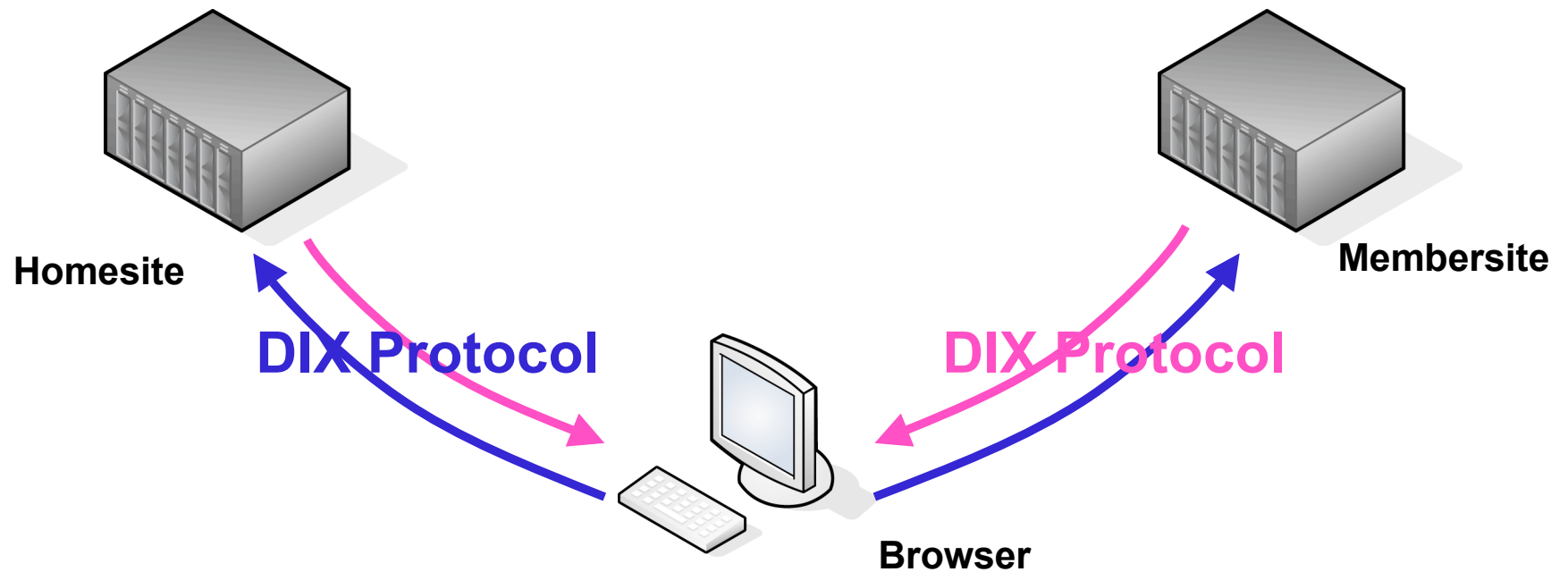
## SXIP Properties

First Name, Last Name, Email  
Address, Blog URL, Image,  
...etc...

## SXIP Buttons

sxip in

sxip save



# Beth

---

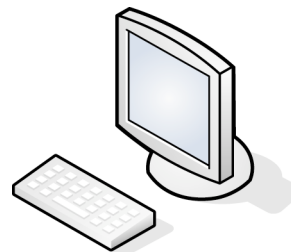


# First Visit to geeknews.com

- Beth receives an email invitation for geeknews.com
- She's going to 'sign in' to the website and provide some information about herself...

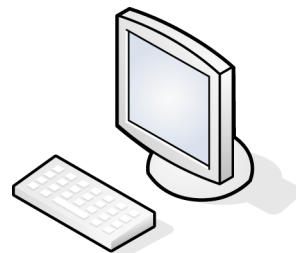


Membersite



Browser

# [sxip in]



Browser

Membersite

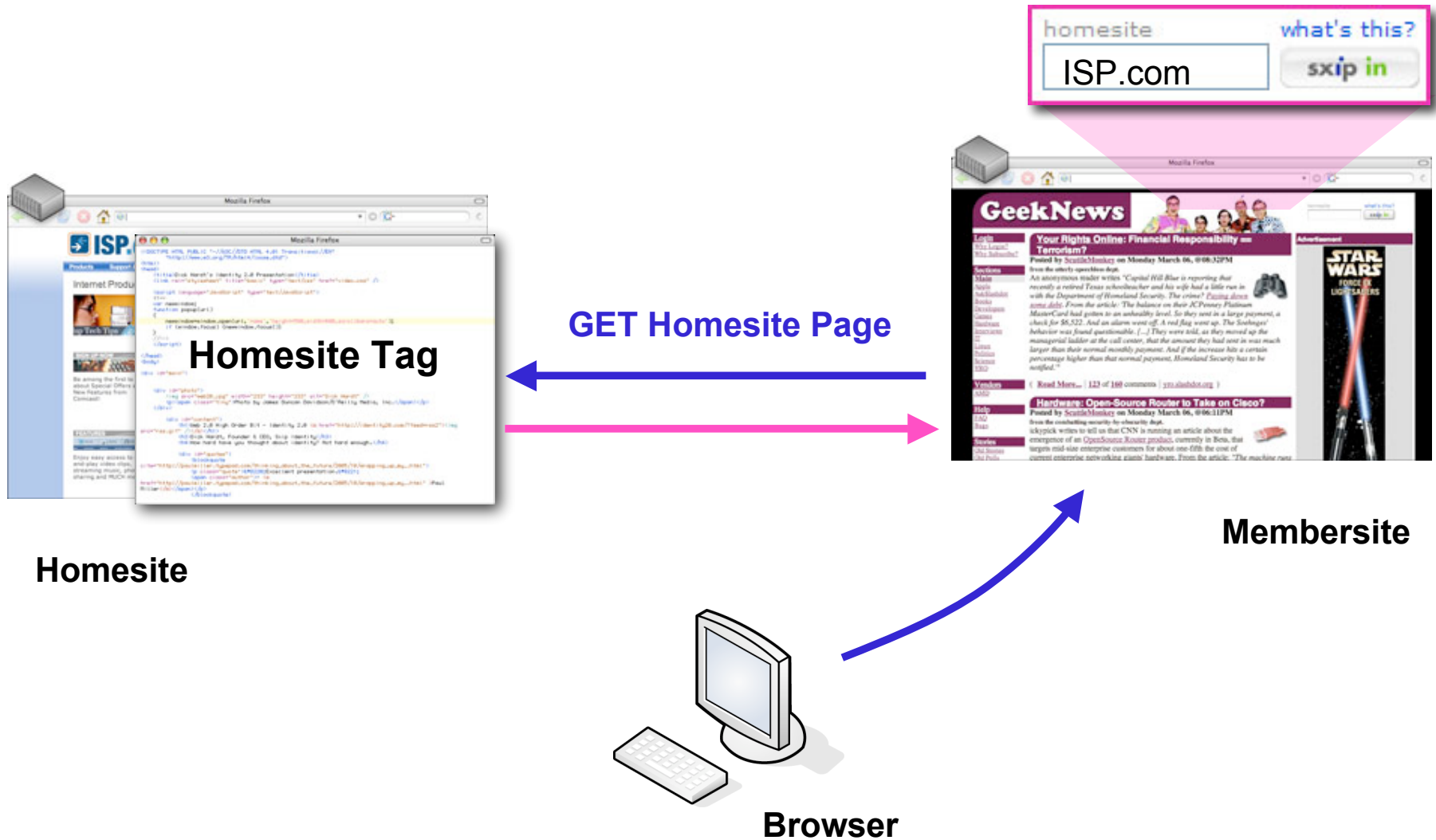
# [sxip in]

---



- Consistent User Experience
  - 'Sign In'
  - Provide Identity Data

# Dynamic Discovery





# Homesite Tag (Bits)

---



Homesite

```
<LINK REL="dix:/homesite"
```

```
HREF=""
```

```
http://isp.com/sxip"
```

```
CLASS=""
```

```
dix:/core#1
```

```
dix://sxip.net/simple#1" />
```

# Homesite Tag

---



Homesite

Endpoint

`http://isp.com/sxip`

Capabilities

`dix:/core#1`

`dix://sxip.net/simple#1`

# Endpoint



Homesite

<http://isp.com/sxip>

## HTTP POST

```
POST /sxip HTTP/1.1
Host: isp.com
User-Agent: membersite
Content-Type:
application/x-www-form-
urlencoded
Content-Length: 202
```

```
dix:/message-
type=dix:/verify-
request&dix%3A%
2Fsignature=NWJhYTYxZTR
jOWI5M2YzZjA2ODIyNTBiNm
NmODMzMWI3ZWU2OGZkOA%3D
%3D&dix:/digest=Yzg3ZjA
0ZjVlZWU1YWFjNTI5ZjY1YW
ViMmMxM2E3NzEwNjliZWUxN
g%3D%3D
```

# Homesite Tag

---



Homesite

Endpoint

<http://isp.com/sxip>

Capabilities

<dix:/core#1>

<dix://sxip.net/simple#1>

# Capabilities

---

Capability	Services
<code>dix:/core#1</code>	Fetch Messages Store Messages Verify Messages
<code>dix://sxip.net/simple#1</code>	SXIP Properties

# Capability Extensibility

---

Capability	Services
<code>dix://domain.com/...</code>	Some Service

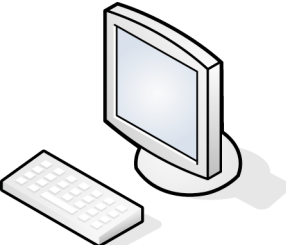
- DIX URI
  - Scheme is DIX
  - Domain is any domain
  - Path is domain specific

# Fetch Request

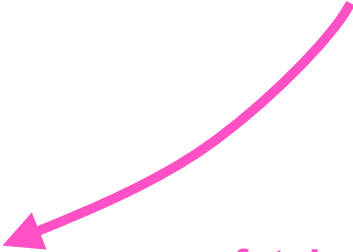
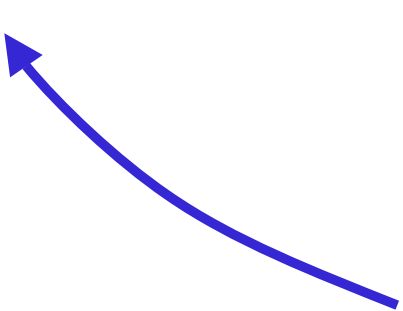


Homesite

Membersite



Browser



fetch request

# Fetch Request (Bits)

---

```
<HTML>
<BODY Onload="document.forms[0].submit()">
<FORM METHOD="POST" CLASS="DIX"
ACTION="http://isp.com/sxip">
<input type="hidden" name="dix:/message-type"
value="dix:/fetch-request"/>
<input type="hidden" name="dix:/message-id"
value="23AC-34B8- BFD1-459A"/>
<input type="hidden" name="dix:/membersite-url"
value="http://geeknews.com/sxip"/>
<input type="hidden" name="dix:/membersite-path"
value="geeknews.com/" />
<input type="hidden" name="first name"
value="dix://sxip.net/contact/name/first"/>
<input type="hidden" name="email"
value="dix://sxip.net/contact/internet/email"/>
<input type="submit"/>
</FORM>
</BODY>
</HTML>
```



# Fetch Request (Bits)

---

```
<HTML>
<BODY Onload="document.forms[0].submit()">
<FORM METHOD="POST" CLASS="DIX"
ACTION="http://isp.com/sxip">
<input type="hidden" name="dix:/message-type"
value="dix:/fetch-request"/>
<input type="hidden" name="dix:/message-id"
value="23AC-34B8- BFD1-459A"/>
<input type="hidden" name="dix:/membersite-url"
value="http://geeknews.com/sxip"/>
<input type="hidden" name="dix:/membersite-path"
value="geeknews.com/" />
<input type="hidden" name="first name"
value="dix://sxip.net/contact/name/first"/>
<input type="hidden" name="email"
value="dix://sxip.net/contact/internet/email"/>
<input type="submit"/>
</FORM>
</BODY>
</HTML>
```

# Fetch Request (Bits)

---

```
<HTML>
<BODY Onload="document.forms[0].submit()">
<FORM METHOD="POST" CLASS="DIX"
ACTION="http://isp.com/sxip">
<input type="hidden" name="dix:/message-type"
value="dix:/fetch-request"/>
<input type="hidden" name="dix:/message-id"
value="23AC-34B8- BFD1-459A"/>
<input type="hidden" name="dix:/membersite-url"
value="http://geeknews.com/sxip"/>
<input type="hidden" name="dix:/membersite-path"
value="geeknews.com/" />
<input type="hidden" name="first_name"
value="dix://sxip.net/contact/name/first"/>
<input type="hidden" name="email"
value="dix://sxip.net/contact/internet/email"/>
<input type="submit"/>
</FORM>
</BODY>
</HTML>
```

# Fetch Request (Bits)

---

dix:/message-type= dix:/fetch-request

dix:/message-id= 23AC-34B8-BFD1-459A

dix:/membersite-url= <http://geeknews.com/sxip>

dix:/membersite-path= [geeknews.com](http://geeknews.com)

first\_name= [dix://sxip.net/contact/name/first](http://sxip.net/contact/name/first)

email= [dix://sxip.net/contact/internet/email](http://sxip.net/contact/internet/email)

# Fetch Request (Bits)

---

```
dix:/message-type= dix:/fetch-request
```

```
dix:/message-id= 23AC-34B8-BFD1-459A
```

```
dix:/membersite-url= http://geeknews.com/sxip
```

```
dix:/membersite-path= geeknews.com
```

```
first_name= dix://sxip.net/contact/name/first
```

```
email= dix://sxip.net/contact/internet/email
```

# Fetch Request (Bits)

---

dix:/message-type= dix:/fetch-request

dix:/message-id= 23AC-34B8-BFD1-459A

dix:/membersite-url= http://geeknews.com/sxip

dix:/membersite-path= geeknews.com

first\_name= dix://sxip.net/contact/name/first

email= dix://sxip.net/contact/internet/email

# Capabilities

---

Property Capability	Property Label
<code>dix://szip.net /contact/name/first</code>	First Name
<code>dix://szip.net /contact/internet/email</code>	Email Address

# Capability Extensibility

---

Property Capability	Property Label
<code>dix://domain.com/path/...</code>	Some Label

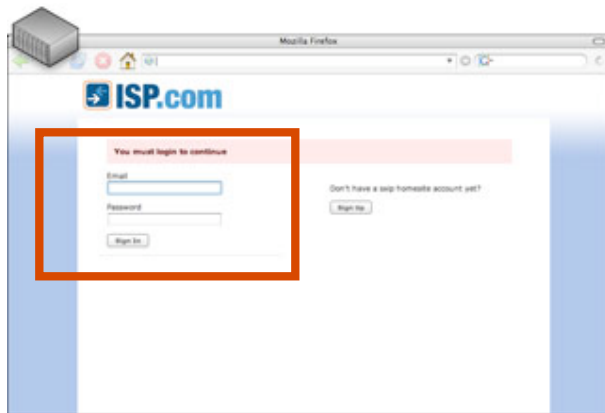
# sxip.net Properties

---

- **Name:** Prefix, First, Middle, Last, Suffix, Alias
- **DOB:** Day, Month, Year
- **Phone:** Home, Business, Cell, Fax
- **IM:** AIM, ICQ, MSN, Yahoo, Jabber, Skype
- **Email:** Address, Verified, Hashed
- **Web:** Blog, Amazon, Flickr, Delicious
- **Company:** Name, Title
- **Media:** Spoken Name, Audio Greeting, Video Greeting, Biography, Image



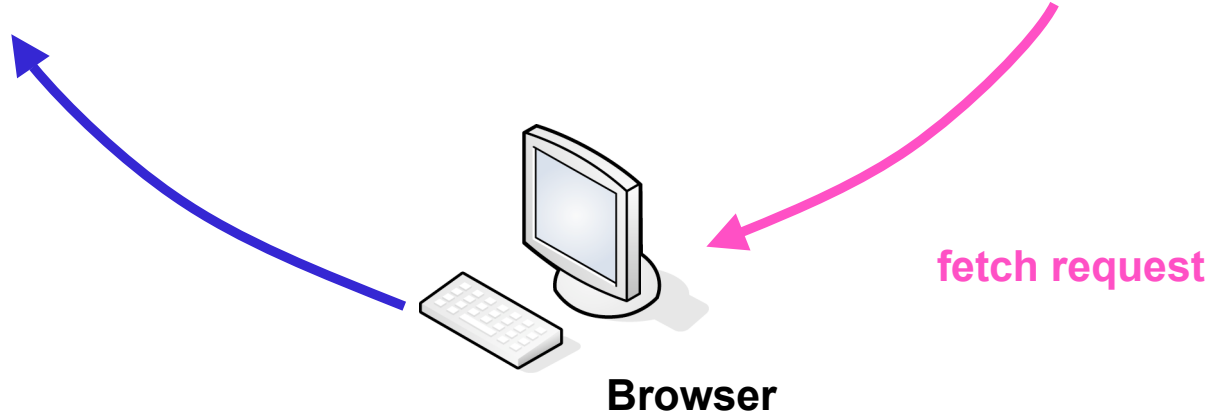
# Authentication



Homesite



Membersite



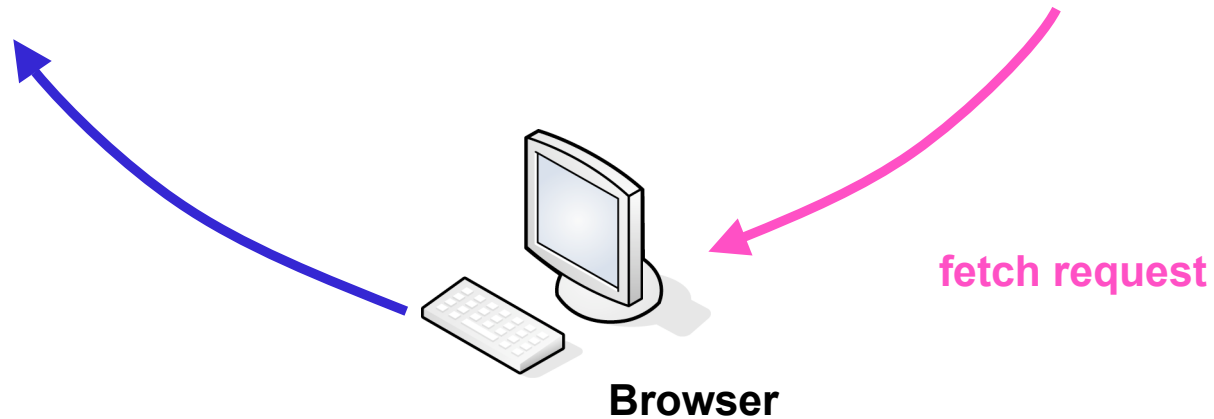
# Properties Requested



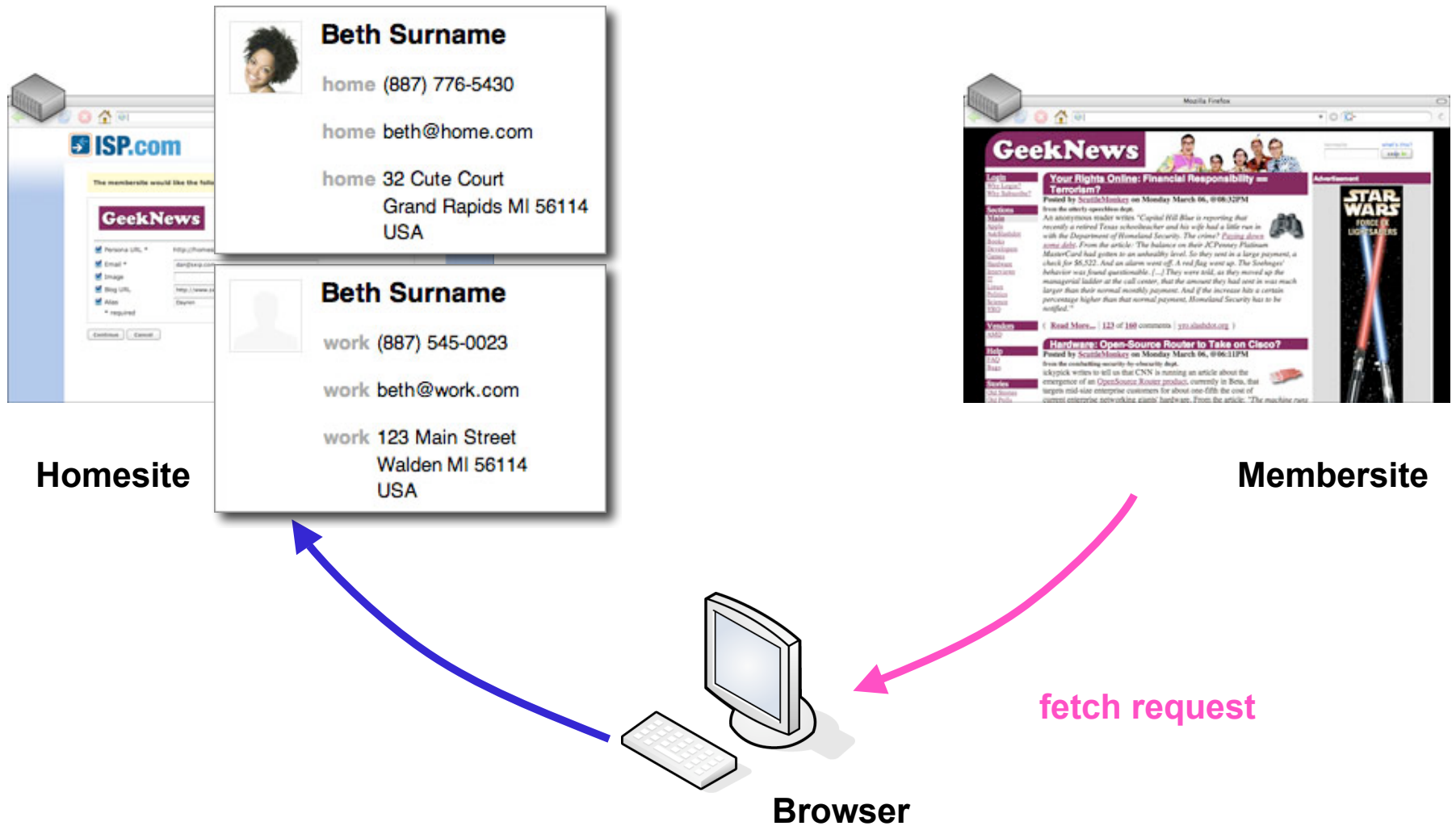
Homesite



Membersite



# Persona Selection



# Persona

---

## Work

<http://work.com/beth>



Name: Beth Surname  
Phone: (604)-678-3500

....

## Home

<http://home.com/beth>



Name: Beth Surname  
Phone: (415)-244-5808

...

# Identifier

---

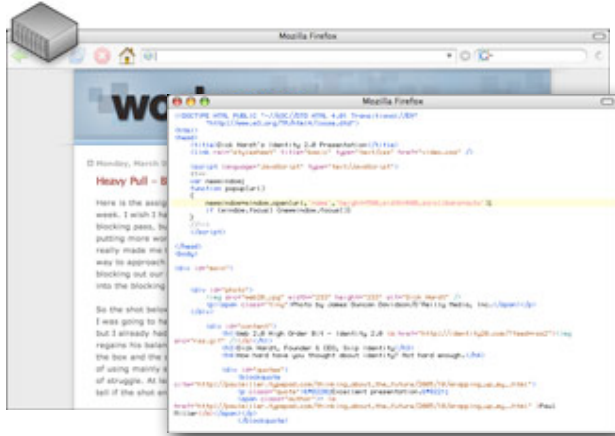
http://work.com/beth



- Persona Identifier is a URL
- Identifier Choice [0...N]
  - No Identifier
  - One per Persona
  - One per Membersite
- No Central Service, just DNS
- How claimed?

# Identifier (Bits)

http://work.com/beth

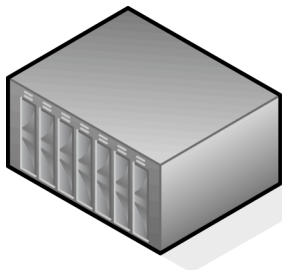


```
<LINK
```

```
REL="dix:/homesite"
```

```
HREF="http://isp.com"
```

```
/>
```



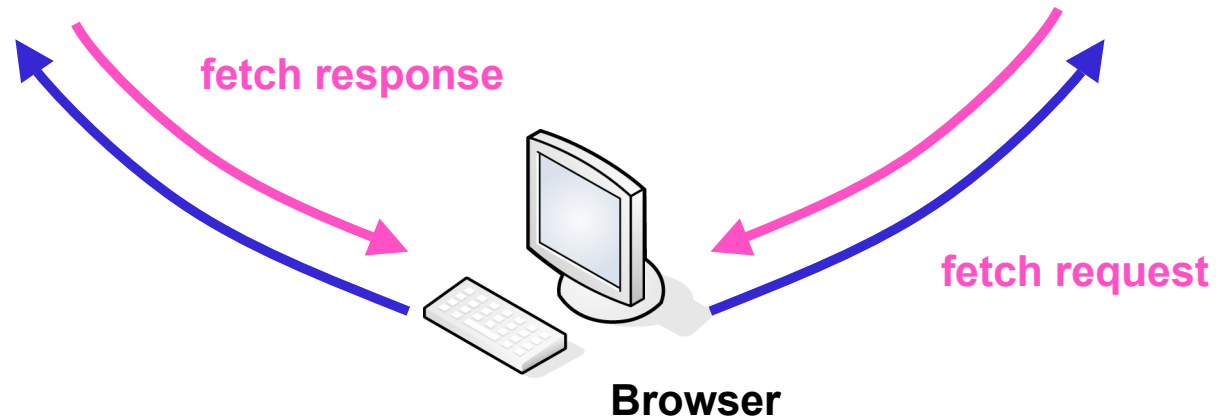
Homesite

# Fetch Response



Homesite

Membersite



# Fetch Response (Bits)

---

dix:/message-type= dix:/fetch-response

dix:/message-id= 23AC-34B8-BFD1-459A

dix:/signature= WJhYTYx...

dix:/homesite-url= <http://isp.com/sxip>

dix:/status-success= dix:/true

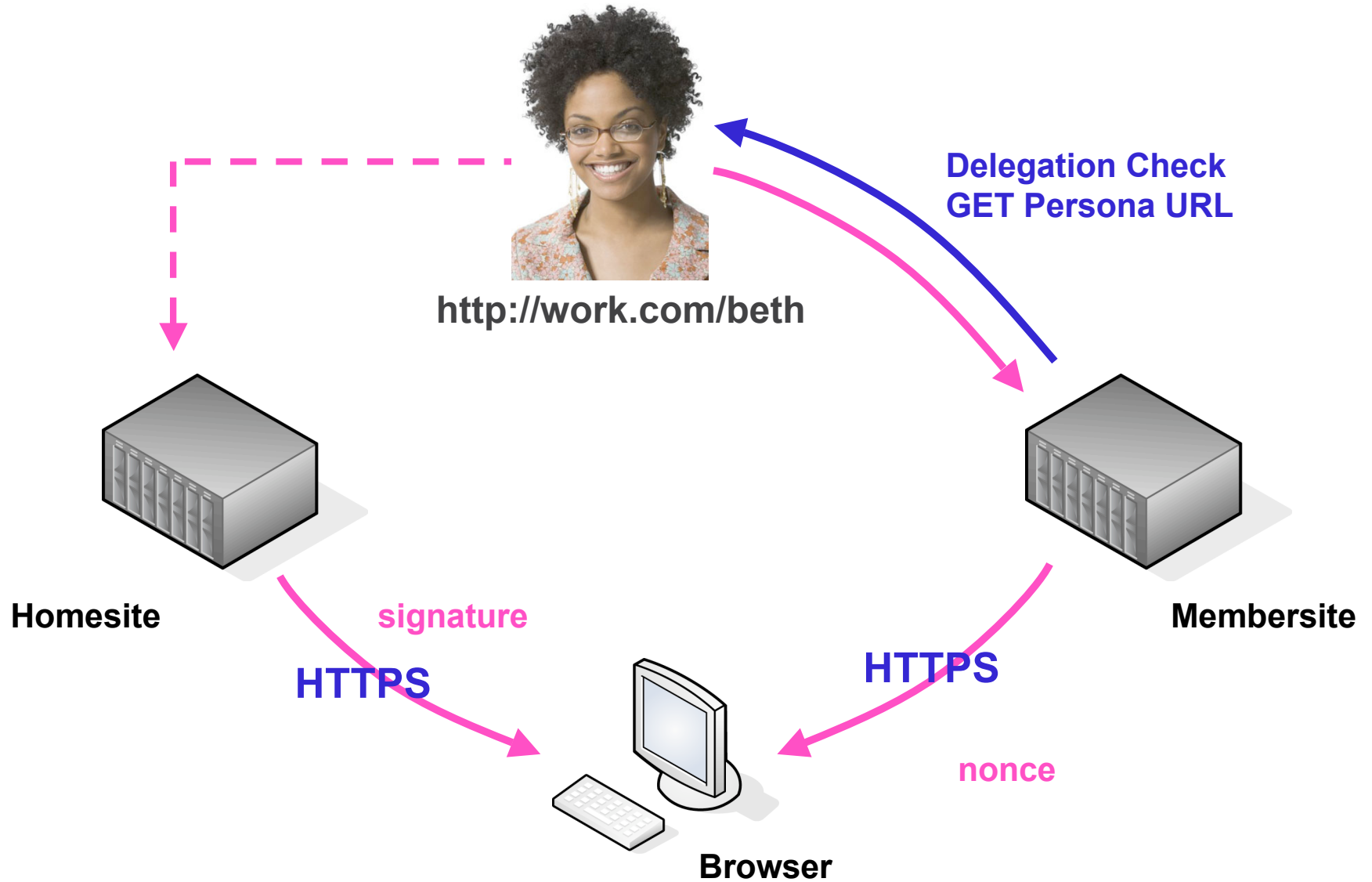
first\_name= Beth

email\_address= beth@surname.com



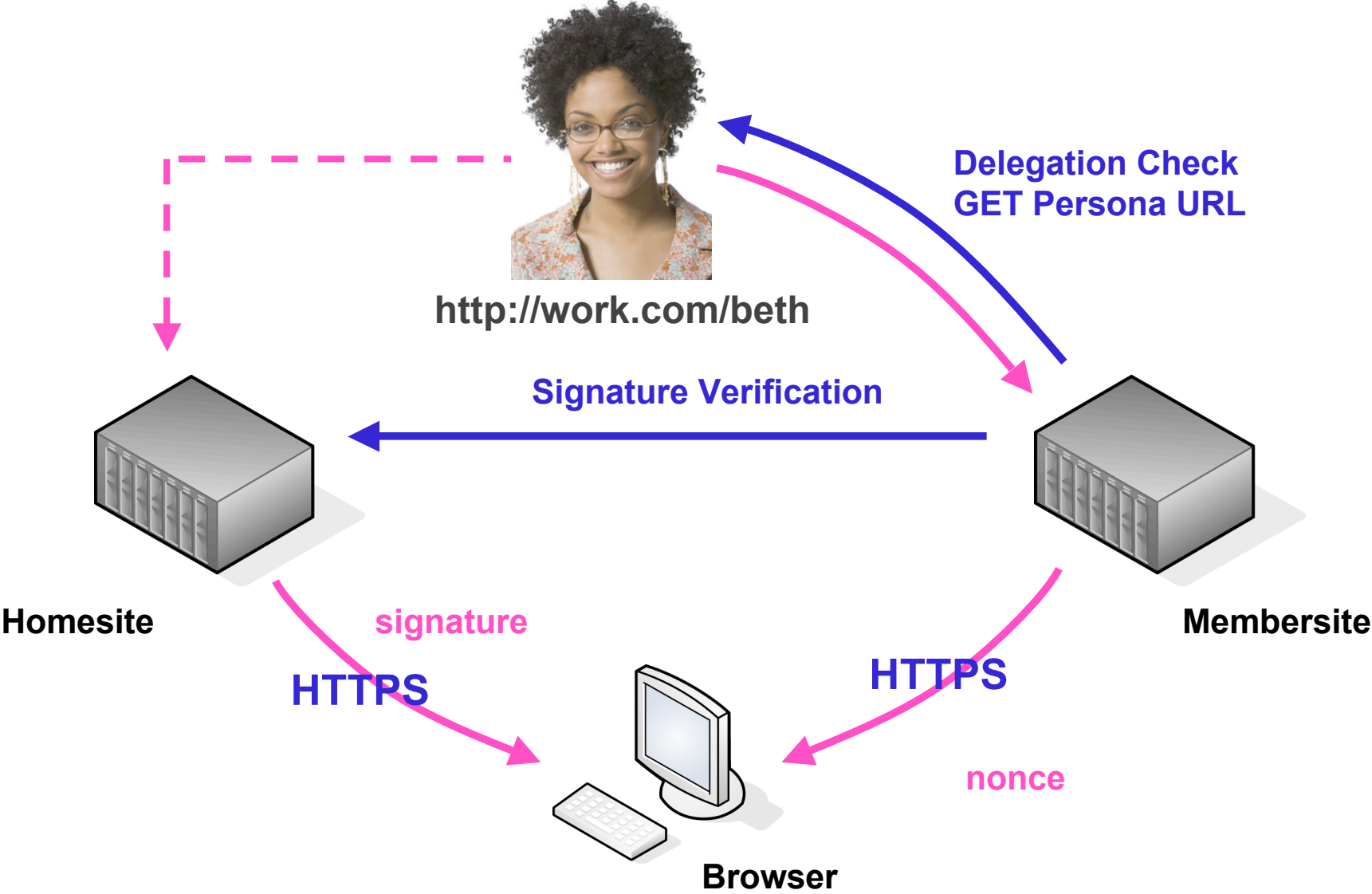
# Security

---



# Security

---



# Verify Request (Bits)

---

POST /szip HTTP/1.1

Host: isp.com

User-Agent: membersite

Content-Type: application/x-www-form-...

Content-Length: 202

dix:/message-type=dix:/verify-request&  
dix%3A%2Fsignature=NWJhYTYxZTRjOWI5M2YzZjA2  
ODIyNTBiNmNmODMzMWI3ZWU2OGZkOA%3D%3D&dix:/d  
igest=Yzg3ZjA0ZjVlZWU1YWFjNTI5ZjY1YWViMmMxM  
2E3NzEwNjliZWUxNg%3D%3D

# Verify Request (Bits)

---

POST /sxiip HTTP/1.1

Host: isp.com

User-Agent: membersite

Content-Type: application/x-www-form-...

Content-Length: 202

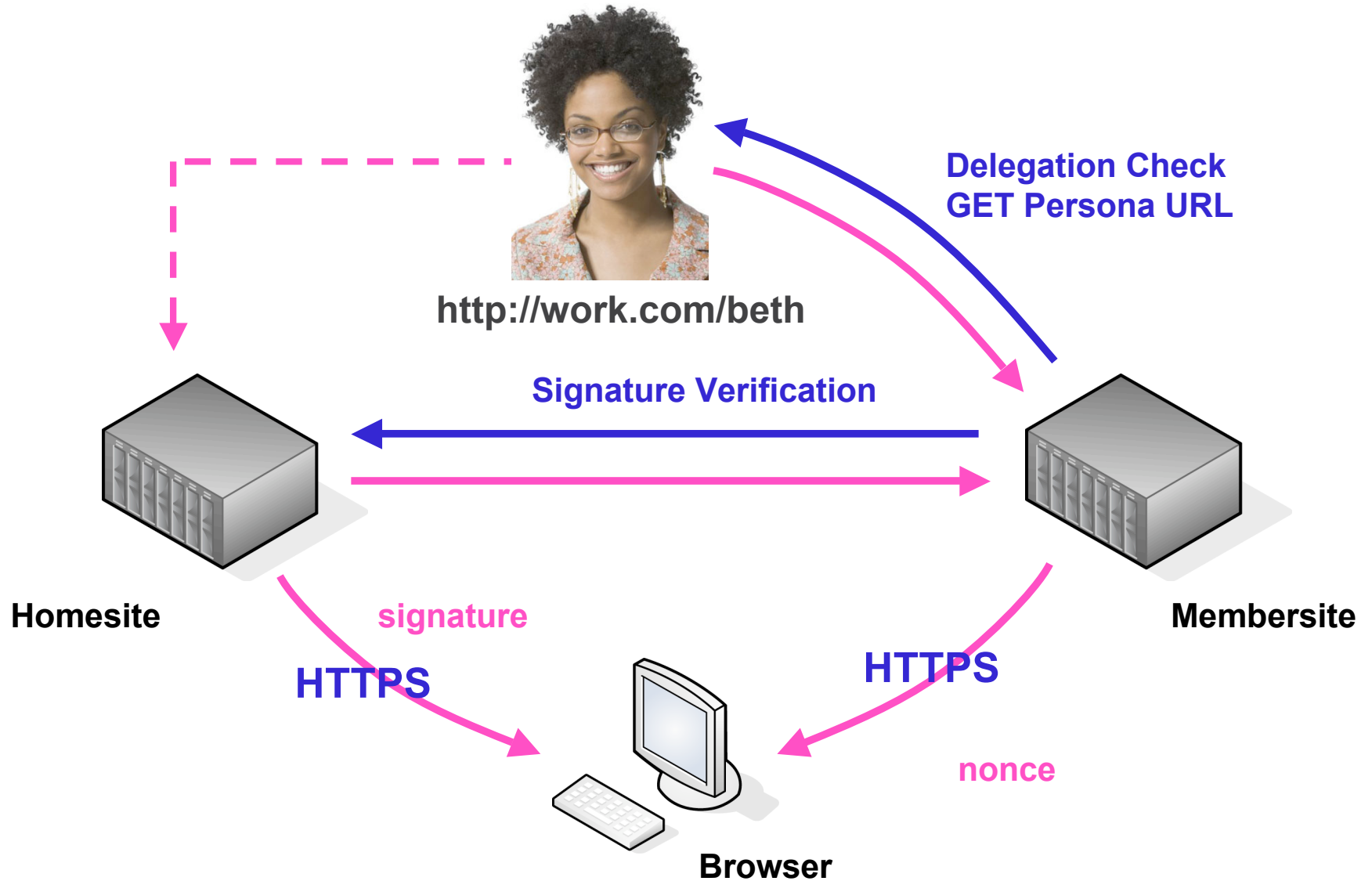
**dix:/message-type= dix:/verify-request**

**dix:/signature= NWJhYTYx...**

**dix:/digest= Yzg3ZjA0...**

# Verify Response

---



# Verify Response (Bits)

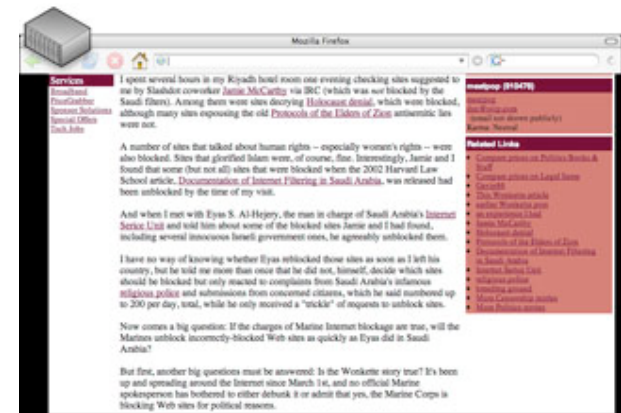
---

```
HTTP/1.1 200 Ok  
Connection: close
```

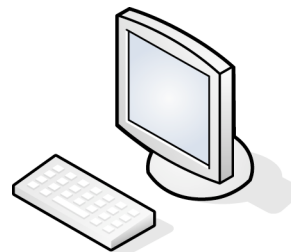
```
dix:/true
```

# Saving Data to isp.com

- Beth decides to leave a comment on a post at geeknews.com
- She will provide some Identity Data and save it at her Homesite



Membersite



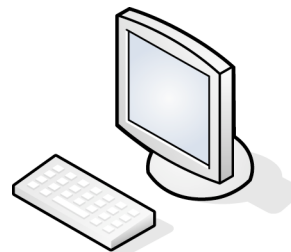
Browser

# [sxip save]

---



Membersite



Browser



# [sxip save]

---



- Consistent User Experience
  - Save Identity Data

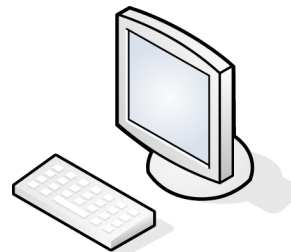
# [sxip save]



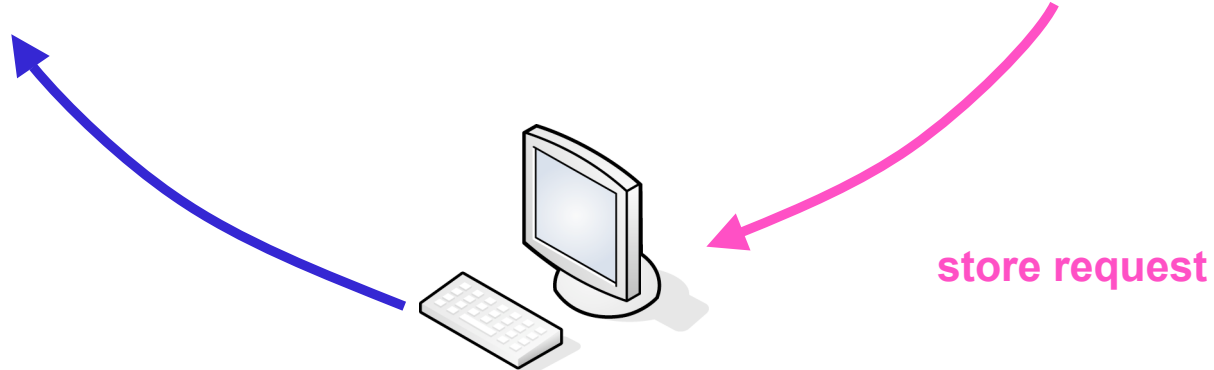
Homesite



Membersite



Browser



store request

# Store Request (Bits)

---

dix:/message-type= dix:/store-request

dix:/membersite-url= <http://geeknews.com/sxip>

dix:/membersite-path= [geeknews.com](http://geeknews.com)

dix:/persona-url= <http://work.com/beth>

dix://sxip.net/media/image=

<http://work.com/beth/me.jpg>

# Persona

---

## Work

<http://work.com/beth>



Name: Beth Surname  
Phone: (604)-678-3500

....

## Home

<http://home.com/beth>



Name: Beth Surname  
Phone: (415)-244-5808

...

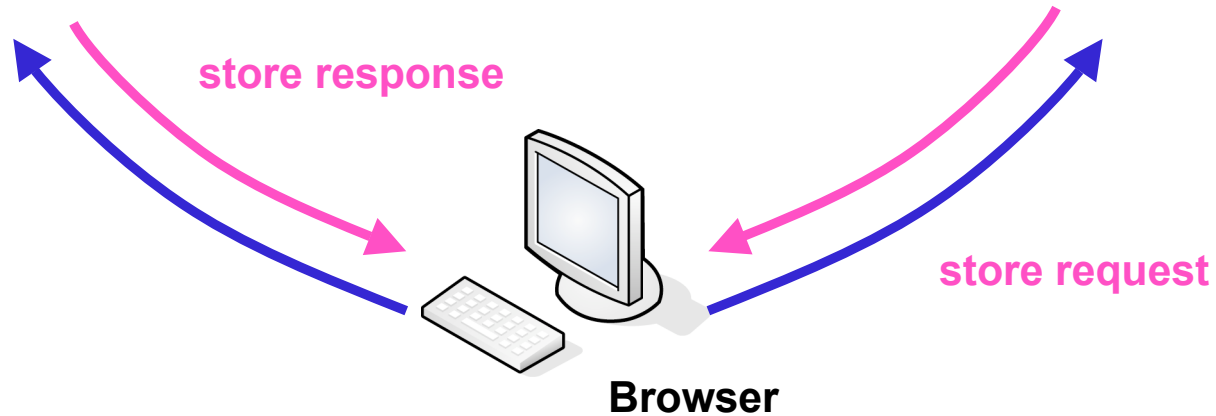
# Store Response



Homesite



Membersite



# Store Response (Bits)

---

dix:/message-type= dix:/store-response

dix:/homesite-url= <http://isp.com/sxip>

dix:/status-success= dix:/true

# Available Today

---

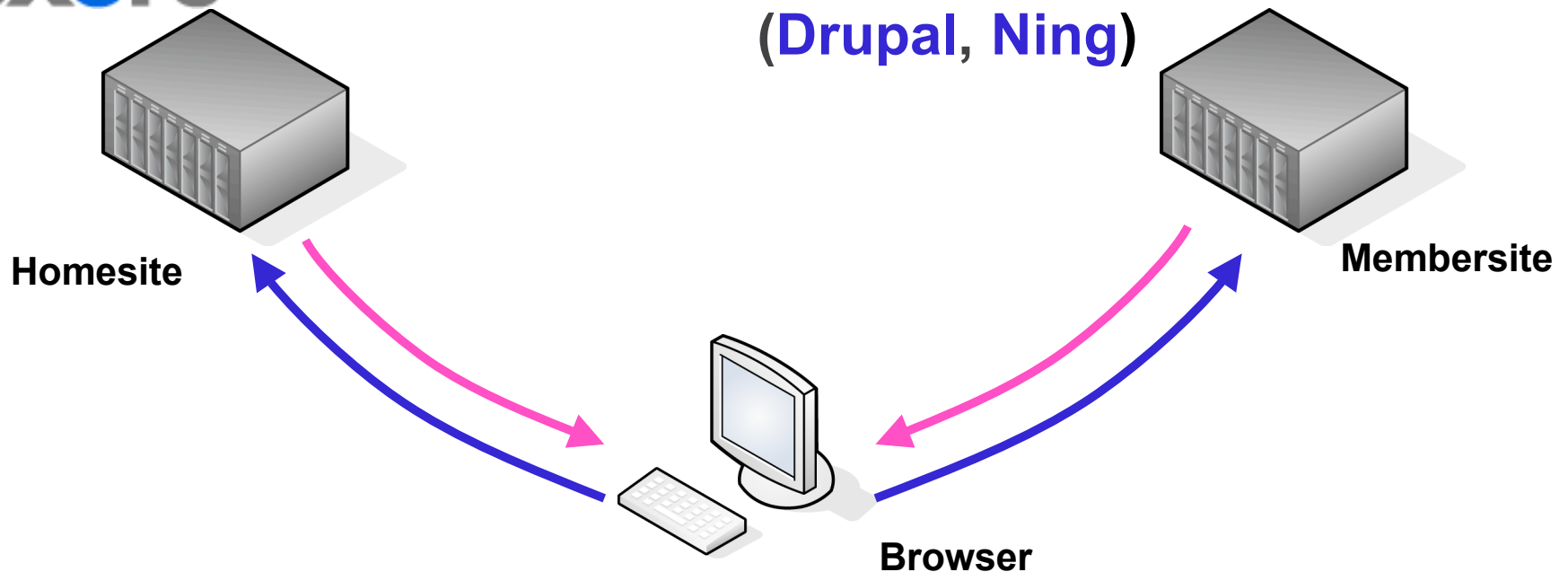
Homesite Reference  
Implementation  
**Perl**

Membersite Development Kit  
**PHP, Perl, Java,**  
**(Ruby, Python)**

Demonstration App

**sxore** BETA

Plugins  
**Media Wiki,**  
**(Drupal, Ning)**



# Resources

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- Websites:
  - The Vision: [identity20.com](http://identity20.com)
  - The Code: [sxip.org](http://sxip.org)
  - The Spec: [sxip.net](http://sxip.net)  
[dixs.org](http://dixs.org)
  - The Demo: [sxore.com](http://sxore.com)
- Contact:
  - John Merrells, [merrells@sxip.com](mailto:merrells@sxip.com)



# draft-merrells-dix-00.txt

---

- Individual Submission Internet-Draft
  - Title: DIX: Digital Identity Exchange
  - Author: J. Merrells, Sxip Identity
  - Contact: merrells@sxip.com
  - Date: Jan 17th, 2005
- <http://www.ietf.org/internet-drafts/draft-merrells-dix-00.txt>
- *(Wiki has Update: <http://dixs.org/index.php/Documents>)*

# General Discussion?

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# Related Open-Source Projects

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- Domain Centric
  - OpenLDAP, Fedora Directory Server, ...
- Federated
  - Shibboleth, OpenSAML, SourceID, ...
- User-Centric
  - Higgins

*(Is this relevant to the IETF? Not really, but people do keep asking though...)*